Claims

1. Method for optimizing measurement and control of the flatness of a strip of rolled material, where a first mapping is made of the strip after passing through a mill stand,
characterized by,
- that a second mapping is made between measurement and control.

2. Method according to claim 1,
characterized by,
- that a second mapping is done by associating to relevant flatness fault types a reference strip model and an actuator space conversion matrix.

3. Method according to any of the preceding claims,
characterized by,
- visualizing of the strip,
- determining the relevant flatness fault type by comparing the visualization to one or more reference strip models,
- choosing an associated and relevant actuator space conversion matrix,
- morphing the visual picture with the measured information.

4. Method according to any of the preceding claims,
characterized by,
- that an enhanced mapping is made between measurement and control by an actuator correction algorithm using morphed informaton.

5. Method according to any of the preceding claims,
characterized by,

- creating a set of reference strip models for known flatness fault types,
- creating a set of space conversion matrices, which are known to correct the known flatness fault types by optimizing the flatness control,
- mapping each reference strip model to its corresponding vector space conversion matrix according to the flatness fault type.

6. Method according to any of the preceding claims, **characterized by,**
- selecting a reference strip model by comparing available reference strip models with the actual strip.

7. Method according to any of the preceding claims, **characterized by,**
- enhancing the measured data by interpolating the reference model with measured flatness data, i.e. by using morphing.

8. Method according to any of the preceding claims, **characterized by,**
- optimizing the control with the space conversion matrix.

9. Method according to any of the preceding claims, **characterized by,**
- converting actual strip to the visualization format used for reference strip models.

10. Method according to any of the preceding claims, **characterized by,**
- having visual access to the strip by an operator.

11. Method according to any of the preceding claims, **characterized by,**

- comparing reference strip models with actual strip visualization format.

12. Method according to any of the preceding claims, **characterized by,**

- manually tuning the automatic comparison.

13. Method according to any of the preceding claims, **characterized by,**

- synchronizing measured data with video samples and with the currently performed optimization algorithm.

14. Method according to any of the preceding claims, **characterized by,**

- using a morphing technique.

15. Method according to any of the preceding claims, **characterized by,**

- adding the result of the mapping by morphing to the measured information from a reference model.

16. Device for optimizing measurement and control of the flatness of a strip of rolled material, **characterized by,**

- means for accomplishing a mapping by associating to relevant flatness fault types a reference strip model and an actuator space conversion matrix.

17. Device according to claim 16, **characterized by,**

- having means for making the mapping between measurement and control.

18. Device according to claim 16 or 17,
characterized by,
- having means for making the mapping between measurement and control by an actuator correction algorithm.

19. Device according to any of the claims 16-18,
characterized by,
- means for creating a set of reference strip models for known flatness fault types,
- means for creating a set of space conversion matrices, which are known to correct the known flatness fault types by optimizing the flatness control,
- means for mapping each reference strip model to its corresponding vector space conversion matrix according to the flatness fault type.

20. A computer program comprising computer program code means for carrying out the steps of a method according to claim 1-15.

21. A computer readable medium comprising at least part of a computer program according to claim 19.

22. A computer program, according to claim 19, that is, at least partially, provided through a network, such as e.g. internet.